

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

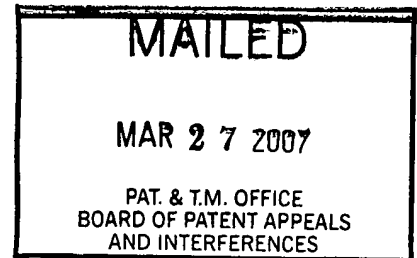
UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte PAUL K. PIONTKOWSKI

Appeal No. 2007-0467
Application No. 10/646,929

ON BRIEF



Before ADAMS, GRIMES, and GREEN, Administrative Patent Judges.

ADAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 12, 15, and 22-23. Of the remaining pending claims, claims 18 and 19 have been withdrawn from consideration as drawn to non-elected subject matter and claims 1-11, 14, 16, 17, 20, 21, 24-28, and 30-32 are free from rejection.

Claims 12 and 22 illustrative of the subject matter on appeal and are reproduced below:

12. A microscope comprising: a hollow elongated body having opposite ends and enclosing first and second optical paths extending through said hollow elongated body, two oculars mounted at one of said ends, each ocular including a lens assembly, a prism assembly in each optical path adjacent each ocular, a lens magnification changer rotatable mounted about an axis and located intermediate the ends of said hollow elongated body, a first series of bores located about the

periphery of said lens magnification changer in a common plane and extending diametrically through said lens magnification changer, a second series of bores located about the periphery of lens magnification changer in a common plane and extending diametrically through said lens magnification changer, a lens assembly located in each bore of said first and second series, the other of said ends of said hollow elongated body including an objective lens, a first of said optical paths extending through one of said oculars to one of said prism assemblies, through one of said first series of bores of said lens magnification changer and through said objective lens, a second of said optical paths extending through the other of said oculars to another of said prism assemblies, through one of said second series of bores in said lens magnification changer and through said objective lens, one or more light emitting diodes located in said hollow elongated body adjacent said objective lens.

22. A stereo microscope as set forth in claim 12, wherein said two oculars, prism assemblies and lens magnification changer are mounted on a base section of an internal mount located within said hollow elongated body.

The references relied upon by the examiner are:¹

Fogle	3,434,772	Mar. 25, 1969
Takizawa et al. (Takizawa)	4,396,260	Aug. 2, 1983
Yamamoto et al. (Yamamoto)	5,442,489	Aug. 15, 1995
Harooni et al. (Harooni)	5,841,509	Nov. 24, 1998

GROUND OF REJECTION

Claims 12 and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Takizawa, Yamamoto, and Harooni.

Claims 22 and 23 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Takizawa, Yamamoto, Harooni, and Fogle.

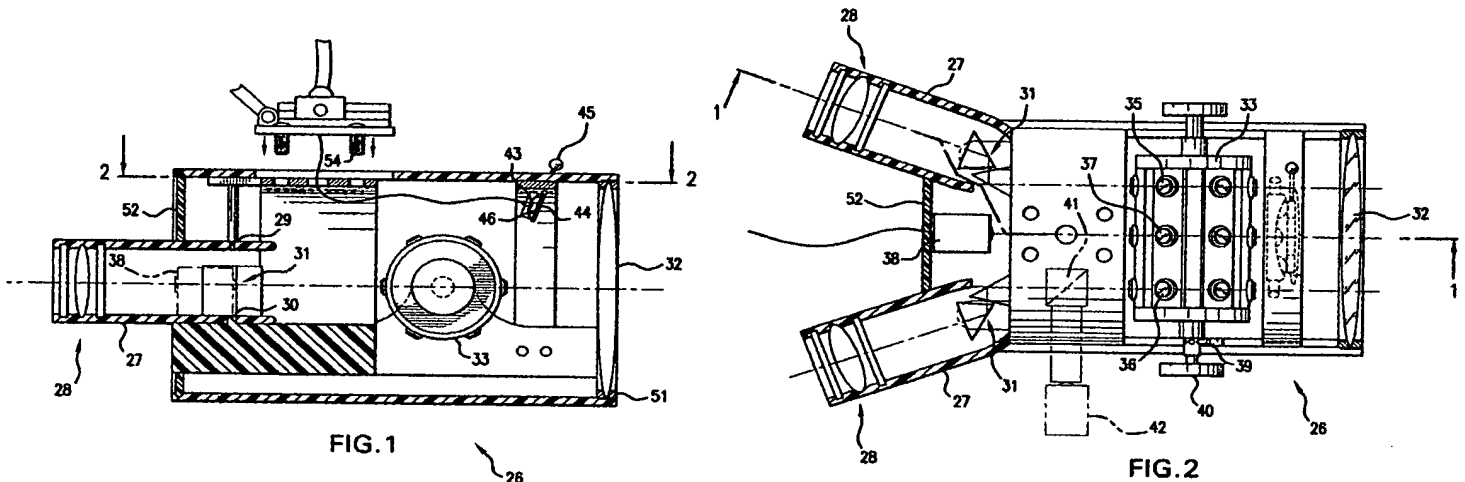
We reverse.

¹ The examiner also identifies Blaha et al., United States Patent No. 4,175,826, issued Nov. 27, 1979; and Fukaya, United States Patent No. 5,420,716, issued May 30, 1995 as "Evidence Relied Upon." The examiner, however, did not rely on either reference to support the rejections presented for our review, accordingly, we did not consider these references in our deliberation.

DISCUSSION

Claim Construction:

For clarity we reproduce appellant's Figures 1 and 2 below.



Claim 12 is drawn to a microscope. The microscope comprises a hollow elongated body 26 having two ends. Two oculars 27 are mounted at one of the ends of the hollow elongated body 26. Each ocular includes a lens assembly 28, a prism assembly 31 in each optical path adjacent each ocular. The other end of the hollow elongated body 26 includes an objective lens 32. Adjacent to the objective lens 32 and located in the hollow elongated body 26 are one or more light emitting diodes (LEDs) 43. In addition, a lens magnification changer 33 is rotatively mounted about an axis and located intermediate the ends of said hollow elongated body. The lens magnification changer has a first and second series of bores. The first series of bores 35 are located about the periphery of the lens magnification changer 33 in a common plane and extending diametrically through the lens magnification changer 33. The second series of bores 36 are located about the periphery of lens magnification changer 33 in a

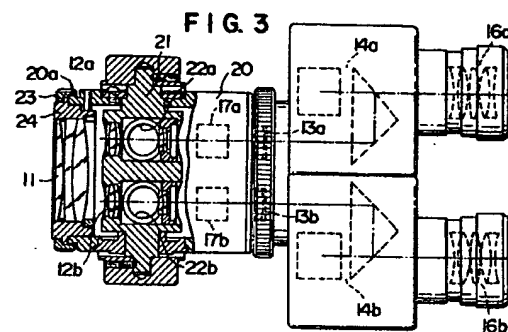
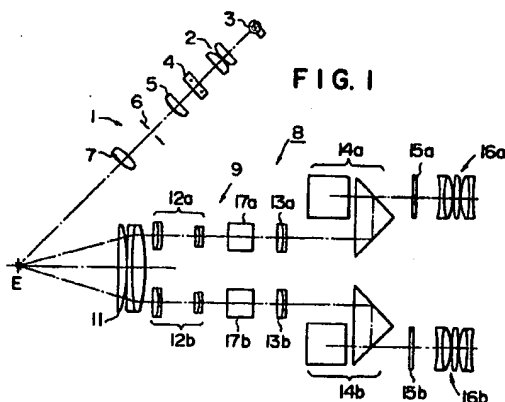
common plane and extending diametrically through the lens magnification changer 33. A lens assembly is located in each bore of the first and second series of bores 35 and 36.

As a result, the hollow elongated body 26 has opposite ends and encloses a first and second optical path that extends through the hollow elongated body. The first of said optical paths extends through one of the oculars 27 to one of the prism assemblies 31, through one of the first series of bores 35 of the lens magnification changer 33 and through the objective lens 32. The second optical path extends through the other ocular 27 to the other prism assembly 31, through one of the second series of bores 36 in the lens magnification changer 33 and through the objective lens 32.

The combination of Takizawa, Yamamoto, and Harooni:

Claims 12 and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Takizawa, Yamamoto, and Harooni.

For clarity we reproduce Takizawa's Figures 3 and 4 below:



Takizawa discloses a slit lamp having a slit illumination system, a binocular microscopic system and a photographing system, for observation of the endothelial cells of the cornea. Takizawa, abstract. The microscopic system includes an objective lens 11 and variable power lenses 12a and 12b. Takizawa, column 2, lines 66-68. According to Takizawa, the variable power lenses 12a and 12b

are placed at the back of the objective lens 11 and form a pair of parallel optical paths. The rays of light passing through the variable power lenses 12a, 12b then pass through lenses 13a, 13b and erecting Porro prisms 14a, 14b and form images on imaging faces 15a, 15b, which are observed through oculars 16a, 16b, respectively.

Takizawa, column 2, line 68 – column 3, line 6, emphasis removed. Takizawa teaches that the

variable power lenses 12a and 12b are fitted onto a rotary member 21 which is turnably fitted onto a lens-barrel 20 around an axis which is at right angles to the optical axis. When this rotary member 21 is manipulated for rotation, the variable power lenses 12a, 12b and through-apertures 22a, 22b defined on the rotary member 21 are alternatively inserted into the optical path for observation and photography.

Takizawa also teaches an illumination system 1 that is separated from the hollow tubular structure of the microscopic system and includes a light source 3 for observation and a second light source 4 for photography.

According to the examiner, Takizawa discloses a “stereomicroscope having an illuminating system and a variable magnification system . . . [that] meets all of the features of the inventive device except” that it does not teach the use of an LED light source or locating the light source in the hollow elongated

body adjacent the objective lens. Answer, page 4. The examiner relies on Harooni and Yamamoto to make up for these deficiencies in Takizawa.

Specifically, the examiner relies on Harooni to teach the use of a light emitting diode in an ophthalmoscope. Answer, pages 4-5. According to the examiner, it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to modify Takizawa to use a LED light source as taught by Harooni. Answer, page 5. However, as appellant points out, while Harooni teaches the use of a LED light source, Harooni's light source is not located in the hollow elongated body but instead is offset from the main viewing housing (e.g., the hollow elongated body). Brief, page 9. Accordingly, Harooni's light emitting diode is not located adjacent the lens as is required by appellant's claimed invention. Id.

Yamamoto teaches a magnifying observation apparatus wherein an image of an object is picked up by an image pick-up apparatus and reproduced on a display and observed. Yamamoto, column 3, lines 32-35. The image pick-up apparatus includes a light source which is incorporated in the image pick-up apparatus to illuminate an object to be observed. Yamamoto, column 3, lines 47-50. According to Yamamoto, the term "light-source . . . covers not only incandescent lamps and fluorescent lamps but also light emitting diode and the like." Yamamoto, column 3, lines 64-68. Yamamoto undoubtedly teaches a LED light source that is integrated into the same hollow elongated body as the rest of the elements of the pick-up apparatus. However, as appellant points out, Yamamoto's pick-up apparatus is not "a microscope of the type claimed" nor

does it teach a LED “located adjacent an objective lens located in an end of an elongated housing. . . .” In addition, we note that Yamamoto’s device appears to be distinct from Takazawa’s slit-lamp, and Harooni’s ophthalmoscope.

Nevertheless, without more, the examiner asserts that it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Takizawa and Harooni “by rearranging the illumination system having light emitting diodes and other optical elements inside the elongated tube as suggested by Yamamoto et al for the purpose of obtaining a more compact configuration for the stereomicroscope.” Answer, bridging paragraph, pages 5-6. We disagree.

As set forth in In re Kotzab, 217 F.3d 1365, 1369-70, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000):

A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. . . . Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one “to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher.”

Most if not all inventions arise from a combination of old elements. . . . Thus, every element of a claimed invention may often be found in the prior art. . . . However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. . . . Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. [Citations omitted].

In other words, "there still must be evidence that 'a skilled artisan, . . . with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.'" Ecolochem Inc. v. Southern California Edison, 227 F.3d 1361, 1375, 56 USPQ2d 1065, 1075-76 (Fed. Cir. 2000). Contrary to the examiner's assertion, we find nothing on this record to suggest modifying the microscopes taught by Takizawa and Harooni by placing the light source inside the hollow elongated body (e.g., the microscope's main housing). While Yamamoto does teach a LED light source integrated into the same housing as the remainder of the elements of Yamamoto's pick-up apparatus, we find little, if any, similarity between Yamamoto's device and the microscopes taught by Takizawa and Harooni. In this regard, we do not find, and the examiner has not identified, any evidence to suggest modifying the structure of the microscopes taught by Takizawa and Harooni according to the teachings of Yamamoto.

On reflection, we find that the examiner failed to provide the evidence necessary to support a prima facie case of obviousness. Accordingly, we reverse the rejection of claims 12 and 15 under 35 U.S.C. § 103 as being unpatentable over the combination of Takizawa, Yamamoto, and Harooni.
Answer, page 6.

The combination of Takizawa, Yamamoto, Harooni, and Fogle:

Claims 22 and 23 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Takizawa, Yamamoto, Harooni, and Fogle.

The examiner relies on the combination of Takizawa, Yamamoto, and Harooni as discussed above. The examiner finds, however, that the combination of Takizawa, Yamamoto, and Harooni fails to teach a microscope wherein the two oculars, prism assemblies and lens magnification changer are mounted on a base section of an internal mount located within the hollow elongated body. Answer, page 6. To make up for this deficiency in the combination of Takizawa, Yamamoto, and Harooni, the examiner relies on Fogle to teach “a mount supporting a plurality of optical elements which mount is located inside an open[ing]. . . .” Id.

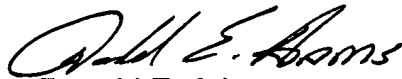
Based on this evidence the examiner finds that it would have been prima facie obvious to a person of ordinary skill in the art to modify the combination of Takizawa, Yamamoto, and Harooni “by mounting optical elements on a mounting section and then dispose[] the mounting section inside an open[ing] defined by shells fastened together as suggested by Fogle for the purpose of proving [sic] an easier way to install and remove the optical elements.” Id.

Fogle, however, fails to make up for the deficiencies in the combination of Takizawa, Yamamoto, and Harooni as discussed above. Accordingly, we reverse the rejection of claims 22 and 23 under 35 U.S.C. § 103 as being unpatentable over the combination of Takizawa, Yamamoto, Harooni, and Fogle.

Our dissenting colleague is of the opinion that appellants’ have made nothing more than a “trivial” improvement over the prior art. Infra, page 11. In the dissent’s personal opinion, the appellant’s claimed invention “would have been obvious to a person of ordinary skill in the field of microscope design.” Id.

Simply stated, the combination of prior art relied upon by the examiner and presented for our review does not support the minority's opinion. See supra. In an attempt to solidify his position, the minority makes reference to evidence not relied upon by the examiner in the rejection before us on appeal. Infra, page 12. In this regard, we remind the minority that the rejection on appeal is the one made by the examiner, not the hypothetical combination of references entertaining the dissent. If upon further consideration the examiner is of the opinion that the prior art supports a different rejection from the one reversed today, the examiner is free to reject the claims on that basis.

REVERSED


Donald E. Adams
Administrative Patent Judge


Lora M. Green
Administrative Patent Judge

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GRIMES, Administrative Patent Judge, dissenting.

I respectfully dissent. The differences between the claimed microscope and the prior art are so trivial that the claimed design would have been obvious to a person of ordinary skill in the art of microscope design. I would affirm the examiner's rejection.

The majority agrees with the Examiner that the claimed microscope differs from that of Takizawa in only two respects: (1) the claimed microscope uses a light-emitting diode (LED) as a light source and (2) the light source is located in the hollow elongated body of the microscope adjacent to the objective lens.

The majority also agrees with the Examiner that "Harooni teaches the use of a[n] LED light source." Ante at 6. Thus, the only feature that even arguably distinguishes the claimed microscope from the prior art is that the LED is "located in said hollow elongated body adjacent said objective lens."

In my view, this limitation would have been obvious to a person of ordinary skill in the field of microscope design. Harooni teaches reflecting the light generated by a light source 145 using a mirror 160 that directs the light through the objective lens 170 to illuminate the subject 245 (an eye). See Fig. 2 and the description of it at col. 3, ll. 45-47, and col. 4, ll. 41-54. The only difference between Harooni's arrangement and the one defined by claim 12 is that Harooni's light source is in an "illumination assembly" oriented perpendicular to the "viewing assembly," rather than in the same housing as the viewing pathway.

Yamamoto discloses a magnifying apparatus in which the light source 4 is located within the same housing as the objective lens 14. See Fig. 1 and col. 5,

II. 46-57. Granted, Yamamoto's device is not a microscope but the evidence of record shows that locating a light source within the microscope housing and adjacent to the objective lens was old in the art. See Horenz,² col. 2, ll. 4-19 (The "device of the invention comprises an optical-fiber cable 12. . . . The output end is . . . fixedly held by a mount 15 so as to face the patient. . . . Preferably, . . . the mount 15 is immediately behind the objective 6."). See also Lang,³ Figs. 1 and 5 and col. 4, ll. 3-12 ("The interchangeable objectives (or objective modules) . . . have the shape of elongated cylinders in circular cross section. In addition to the imaging-lens system shown in FIG. 1, these objective modules also contain channels 23, 24 (FIG. 5) through which liquids can be conducted. . . . Furthermore, a glass-fiber bar 21 via which the object space can be illuminated is arranged in the objectives.").

Perhaps most importantly, Takizawa teaches that this was a conventional arrangement in a slit lamp apparatus: "Conventional apparatuses produced for this purpose are broadly classified in two groups. One is the type in which the illumination system and the observation and photographing system use an objective lens in common and the other in which both systems have respective separate objective lenses." Col. 1, ll. 40-43 (emphasis added). Takizawa discloses a modified slit lamp apparatus of the latter type, but states clearly that both are conventional.

² Horenz, U.S. Patent 4,614,411, issued Sept. 30, 1986. Horenz was cited in the Information Disclosure Statement filed August 25, 2003.

³ Lang et al., U.S. Patent 4,364,629, issued Dec. 21, 1982. Lang was also cited in the IDS filed August 25, 2003

Thus, those of ordinary skill in this art would have been aware that generating light within a microscope's housing and shining it onto the subject area via the objective lens was old in the art. "The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art." In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) (emphasis added). The microscope of claim 12 does not differ in any nonobvious way from the prior art. The Examiner's rejection should be affirmed.

The majority reverses the rejection of claim 12 on the basis that "nothing on this record . . . suggest[s] modifying the microscopes taught by Takizawa and Harooni by placing the light source inside the hollow elongated body (e.g. [sic], the microscope's main housing." Ante at 8. For the reasons discussed above, I disagree with that conclusion. In my view, the majority's analysis fails to take into account the knowledge of those skilled in designing microscopes.

Appellant argues that placing an LED light source close to the objective lens has several advantages (Br. 9-12). Appellant cites no evidence to support any of the assertions in the Brief but, even if the arguments were supported by evidence, they would not show nonobviousness: the evidence of record shows that LEDs were a well-known light source for microscopy, and that locating the light source adjacent to the objective lens was also old in the art.

Appellant also argues that the reflector and filter recited in claim 15 are not taught in the cited references (Br. 13) but this argument is factually incorrect. Harooni teaches a "hemispherical reflector 185" behind the light source (Fig. 2

and col. 5, l. 11) as well as an "optical filter(s) 55" in front of it (Fig. 2 and col. 3, l. 56).

I would affirm the rejection of claims 22 and 23. I agree with the Examiner that it was known in the art to mount optical elements (oculars, prism assemblies, and magnification changer) on a base section, and to form a microscope body from shells fastened together, as shown by Fogle. The microscope of claims 22 and 23 therefore would have been obvious in view of the cited references.

In sum, all the elements of the microscope defined by claims 12, 15, 22, and 23 were known to those skilled in the art of microscope design. The differences between Appellant's claims and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a). In my view, the rejections should be affirmed.



Eric Grimes
Administrative Patent Judge

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